IN THE CLAIMS

The claims are as follows:

1. (Previously Presented) A cholesterol recognition/interaction amino acid consensus sequence comprising

$$Z\text{-}(X)_{0\text{-}5}\text{-}Y\text{-}(X)_{0\text{-}5}\text{-}Q \text{ (SEQ ID NO:26)}$$

wherein Z is a neutral hydrophobic amino acid, Y is a neutral polar amino acid, Q is a basic amino acid and X is any amino acid.

2. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein Z is Leucine or Valine.

3. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein Y is Tyrosine.

4. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein Q is Arginine or Lysine.

5. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein

(i) Z is leucine or Valine;

(ii) Q is Arginine or Lysine; and

(iii) Y is Tyrosine.

6. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein X is one amino acid.

7. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein X is two amino acids.

8. (Original) The cholesterol recognition/interaction amino acid consensus sequence of claim 1 wherein X is 1-3 amino acids.

9. (Original) A nucleic acid molecule encoding the consensus sequence of claim 1.

10. (Original) A nucleic acid molecule comprising:

(i) a vector; and

(ii) the nucleic acid molecule of comprising a cholesterol interaction/recognition consensus of claim 9.

11. (Original) The nucleic acid molecule according to claim 10 wherein said vector is a prokaryotic vector.

12. (Original) The nucleic acid molecule according to claim 11 wherein said vector is an expression vector.

13. (Original) The nucleic acid molecule according to claim 10 wherein said vector is a eukaryotic vector.

14. (Original) The nucleic acid molecule according to claim 13 wherein said vector is an expression vector.

15. (Original) The nucleic acid molecule according to claim 13 wherein said vector is useful for expression in plants.

16. (Original) A host cell transformed with the nucleic acid molecule of claim 10.

17. (Original) The host cell of claim 16 wherein said host cell is prokaryotic.

18. (Original) The host cell of claim 16 wherein said host cell is eukaryotic.

19. (Original) The host cell of claim 16 wherein said host is a plant cell.

20. (Original) A peptide comprising a cholesterol interaction/recognition sequence according to claim 1.

21. (Original) A method for detecting whether or not a protein recognizes cholesterol comprising identifying in the amino acid sequence or the nucleic acid sequence of said protein the presence or absence of a cholesterol recognition/interaction consensus sequence according to claim 1 wherein the presence of the consensus sequence indicates possible interaction/recognition of the protein with cholesterol.

22. (Original) A method for conferring cholesterol recognition/interaction to a molecule comprising introducing into said molecule a cholesterol recognition/interaction sequence according to claim 1 such that said sequence is expressed and said molecule interacts with cholesterol.

23. (Original) A method for reducing serum cholesterol in a subject, said method comprising introducing into said subject a nucleic acid comprising the cholesterol interaction/recognition consensus sequence according to claim 1 such that it is expressed and is able to interact with cholesterol.

24. (Original) A method for delivering cholesterol to a subject comprising administering a peptide comprising the cholesterol interaction/recognition consensus sequence according to claim 1 complexed with cholesterol in a pharmaceutically acceptable amount, in a pharmaceutically acceptable diluent.

25. (Original) A method for detecting an increase or decrease of cholesterol in a biological sample comprising

immobilizing a polypeptide comprising the cholesterol interaction/recognition consensus sequence according to claim 1 on a solid support rendering an immobilized polypeptide,

exposing the sample to the immobilized polypeptide, and

measuring the amount of cholesterol-bound polypeptide wherein when comparing to a standard, an increase or decrease over the standard can be determined.

26. (Original) A method for screening agents or drugs which are agonists or antagonist of interaction between peptides comprising the cholesterol recognition/interaction consensus sequence according to claim 1 and cholesterol comprising

exposing a polypeptide comprising the consensus sequence of the present invention to cholesterol under conditions where interaction between cholesterol and the peptide occurs forming a peptide/cholesterol complex

incubating the complex with a test compound

measuring an increase or decrease in the level of interaction between the polypeptide and cholesterol in response to the test compound where an increase in interaction would indicate that the test compound is an agonist and a decrease in interaction would indicate that the test compound is an antagonist of peptide/cholesterol binding.

27. (Original) A molecule which blocks cholesterol interaction with the cholesterol recognition/interaction consensus sequence according to claim 1.

28. (Original) The molecule according to claim 27 wherein said molecule is selected from the group consisting of: a peptide, a drug, and an antibody.

29. (Original) A method for reducing the cholesterol binding ability of peptide which comprise the cholesterol recognition/interaction consensus sequence according to claim 1 comprising

modifying Y from a tyrosine to a serine, or

modifying Q from an arginine to a leucine.

30. (Original) A peripheral-type benzodiazepine receptor wherein the cholesterol recognition/interaction function of said receptor is reduced according to the method of claim 29.

31. (Canceled)

32. (Previously Presented) The method of claim 38 wherein said administration is by microspheres.

33. (Original) A transgenic plant comprising a nucleic acid encoding a peripheral-type benzodiazepine receptor according to claim 30.

34. (Previously Presented) A transgenic plant comprising a nucleic acid encoding a peripheral-type benzodiazepine receptor according to claim 37.

35. (Original) A transgenic plant comprising a nucleic acid encoding a peripheral-type benzodiazepine receptor operably linked to an inducible promoter.

36. (Original) The transgenic plant according to claim 35 wherein said promoter is inducible any of the following conditions: heat, administration of antibiotic, administration of plant hormone.

37. (Previously Presented) A peripheral-type benzodiazepine receptor unable to recognize/interact with cholesterol said receptor comprising a deletion comprising a cholesterol interaction/recognition sequence of said receptor.

38. (Previously Presented) A method for reducing disease symptoms in a subject resulting from an increase in cholesterol, said method comprising administering to said subject a nucleic acid encoding a peptide comprising a cholesterol recognition/interaction consensus sequence such that said nucleic acid is expressed and said peptide is produced in a therapeutically effective amount.